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LLNL-TR-414843

# Information Gathering Document 0321-1437-30-R-OG

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## Disclaimer

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# INFORMATION GATHERING DOCUMENT

## WASTE GENERATOR SERVICES

IGD No.: <b>0321-1437-30-R-OG</b>	RMMA: <input checked="" type="radio"/> YES <input type="radio"/> NO	Bldg.: 321	Room: 1437 and various	Workstation No.:	Previous Analytical #
Generator Name: Amy Kirch		Container Size/Type: 30 gal [Primary container] and 55 gal drums [Overpacks]		Rate of Generation: Twenty-five 30-Gal drums/year	
Generator Ext: 4-6240	Type of Project: <input checked="" type="radio"/> Ongoing <input type="radio"/> One-time				

☐ Continuation Sheet Attached (any field may be continued on it)

### A. DESCRIPTIONS

#### A.1 Process Descriptions

General description of the process that generated the waste. For TRU waste, include a flow diagram of the process and list FSPs, OSPs, instructions, and / or SOPs used (optional for other waste types (Example: what goes in, what comes out))

Fines and turnings from machining depleted uranium (Dep-U), natural uranium (Nat-U), and Thorium-232, and stainless steel and aluminum. This IGD allows only small, oxidizable pieces of Dep-U/Nat-U/Th-232, with regulated metal contaminants below regulatory limits. Fines and turnings will be in 30 gallon vented drums immersed in mineral oil. The 30 gallon drums will be overpacked in 55 gallon vented drums. The waste will be stored on site until sent for stabilization & disposal with approved TSDFs.

This IGD replaces PKE 253.

IWSs:				
FSPs:	B321			
OSPs:				
SOPs:				

### B. WASTE MATRIX DESCRIPTION

Identify all the waste attributes that this process could generate (Check all that apply)

#### B.1 Waste form: ☐ LIQUID ☒ SOLID ☐ COMPRESSED GAS

(a) Liquid: ☒ N/A ☐ Clear ☐ Cloudy ☐ Color

How Many Layers ?  Phase 1:  % Phase 2:  % Phase 3:  %

(b) Solids: ☐ N/A ☐ E-waste ☐ Vegetation ☒ Inorg  
☐ Debris / lab trash ☐ Solidified liquids ☒ Other: ☐ Org  
☐ Trace sediment ☒ Granular  
☐ HEPA filters ☐ Dust  
☐ Powder ☒ Particulates

Other: Dep-U / Nat-U / Th turnings fines and small pieces, in inerting fluid

#### B.2 Equipment : ☒ Not Applicable

The following documentation of supporting information is attached:

<input type="checkbox"/> Procurement documentation	<input type="checkbox"/> Specifications	<input type="checkbox"/> Drawing #s and LLNL inventory #s of the waste
<input type="checkbox"/> Statement of work	<input type="checkbox"/> None available	<input type="checkbox"/> Swipe data forms attached
<input type="checkbox"/> Drawings	<input type="checkbox"/> See attached spreadsheet	

Drawing Numbers and LLNL Inventory Numbers of the waste items used:


#### B.3 Mark components that may be in an ongoing waste stream or that are in a one-time waste. You may also mark the categories, which are items in CAPITAL letters followed by a colon. List additional components in the comments section that follows.



☐ N/A☐ ANIMAL WASTE:

- ☐ Animal bedding
- ☐ Animal carcasses
- ☐ Animal feces
- ☐ Animal feed
- ☐ Animal tissue
- ☐ Animal urine residue
- ☐ Non-infectious rat and mouse blood residue

☐ CELLULOSICS:

- ☐ Abrasive paper/cloth/brushes
- ☐ Absorbent products (pigs/pads/boom)
- ☐ Burlap products
- ☐ Cloth products
- ☐ Cork products
- ☐ Cotton products
- ☐ Mop heads
- ☐ Paper products
- ☐ Wood products

☒ CERAMICS/OXIDES:

- ☐ Aluminum oxide products
- ☐ Ceramic parts free of CA or RCRA-regulated metals
- ☐ Drierite (without cobalt chloride)
- ☐ Hafnium oxide
- ☐ Magnesium oxide products
- ☐ Molecular sieve

☒ Thorium oxide

- ☐ Zirconia fire bricks
- ☐ Zirconium oxide

☐ CHEMICALS (BELOW REGULATORY LIMITS):

- ☐ Agarose gels
- ☐ Ethidium bromide (<500 ppm)
- ☐ Hardened two-part epoxy
- ☐ Hydrocarbon anion/ion exchange resin
- ☐ Isopropanol (residual dried onto waste)
- ☐ Oil (<5 ppm PCB)
- ☐ Polyacramide
- ☐ Radiac Wash (residue - <1% by weight)
- ☐ Sephadex resin

☐ DEBRIS:

- ☐ Concrete
- ☐ Concrete shielding blocks
- ☐ Construction debris
- ☐ Gravel
- ☐ Non-ACM or non-friable ACM tiles
- ☐ Soil - <1% by weight
- ☐ Soil - >1% by weight with EA/CC approval as non-Haz
- ☐ Vegetation-(leaves, pine needles, grass)

☐ EQUIPMENT-(NON-REGULATED MATERIALS):

- ☐ Benches, tables, cabinets, drawers
- ☐ Glove boxes
- ☐ Hardware
- ☐ Hoses
- ☐ Small equipment - free of liquids
- ☐ Sweepers, vacuums, mops
- ☐ Thermocouples
- ☐ Tools
- ☐ Window screens

☐ FILTERS - (W/DOCUMENTED EA APP.):

- ☐ Carburetor filters
- ☐ Filters
- ☐ HEPA filters
- ☐ HEPA filter housings
- ☐ Pre-filters

☐ GLASS:

- ☐ Fibertext
- ☐ Fiberglass
- ☐ Glass products (lead-free)
- ☐ Mirrors

☐ INORGANIC LIQUIDS:

- ☐ Non-hazardous inorganic liquids solidified with Aquaset or Petroset
- ☐ TLC-free Stripcoat (dry)
- ☐ X-Caliber cleaning compound (dry)

☐ Yttria paint (dried)☐ METALS-(NON-REG, NON-HAZ, NON-FINELY DIVIDED):

- ☒ Aluminum metal/alloy products
- ☐ Brass products
- ☐ Bronze products
- ☐ Cobalt products
- ☐ Copper products
- ☐ Decontaminated metal scrap
- ☐ Manganese products
- ☐ Nickel products
- ☒ Steel and iron alloy products
- ☐ Tantalum products
- ☒ Thorium products
- ☐ Titanium products
- ☐ Tungsten products
- ☒ Uranium products
- ☐ Vanadium products
- ☐ Zinc products

☐ MISC. INORGANICS:

- ☐ Silica
- ☐ Silicon

☐ MISC. ORGANICS:

- ☐ Marking Pens (dried out)
- ☐ HPLC columns (filled with silated carbon)
- ☐ Paraffin wax
- ☐ Respirator cartridges (if carbon, >100 micron)
- ☐ Tile mastic (<1% asbestos or if solid/non-friable)
- ☐ Type 52 Polaroid film (used)

☐ PACKING MATERIALS:

- ☐ Diatomaceous earth
- ☐ Foam products
- ☐ Ultrasorb
- ☐ Vermiculite
- ☐ X-Sorb

☐ PLASTICS:

- ☐ Plastic products
- ☐ Styrofoam products
- ☐ Teflon products

☐ RUBBER:

- ☐ Hypalon gloves
- ☐ Hypalon gloves - leaded
- ☐ Latex (surgeon's) gloves
- ☐ Neoprene gloves
- ☐ Neoprene gloves - leaded
- ☐ Nitrile gloves

☐ Rubber products☐ SALT BLOCKS:

- ☐ Waste salt blocks

Other components include:

Mineral oil as inerting fluid

Other non-regulated metals are allowed with EA approval.

Trace quantities of Dasco Clear 592 coolant and water may be present.

For one-time waste, you may:

☐ See attached (may be used to describe multiple items)☐ See attached WDR(s) for description (one-time waste)**B.4 Describe waste and estimate the weights and / or volumes of material per item or parcel.**

(For example lab trash parcel - 30 pounds; glovebox - 100 pounds; 3 - wood boxes - 25 pounds each)

Estimated Weights / Volumes

Per 55-gal drum: 55 Gallon drums only used as overpack container.

Per 30-gal drum: &lt;60 kg of Dep-U/Nat-U/Th; &lt;30 kg of coolant; &lt;60 kg other metals

Item / Parcel / WDR Numbers:


**C. WASTE DESCRIPTION:****C.1 Material usage and concentration if applicable (for example Nitric acid 1-5%, Beryllium 1-10 mg). Identify all constituents in waste (hazardous and non-hazardous) Not applicable to certified LL and TRU wastestreams.**Constituent / Concentration Range ☒ N/A

N/A (LLW)



C.2 Identification of Metals: ☒ N/A

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Metal	In Solution / Powder **/ Granular	Solid ( for example, plate foil, wire)	Concentration
Antimony	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Arsenic	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Barium	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Beryllium*	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Cadmium	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Chromium	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Cobalt	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Copper	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Lead	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Mercury	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Molybdenum	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Nickel	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Selenium	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Silver	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Thallium	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Vanadium	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		
Zinc	<input type="checkbox"/> In Solution <input type="checkbox"/> Powder <input type="checkbox"/> Granular		

C.3 Check any of the following solvents that may be present in the waste stream. Enter usage number selected from the table below, and enter corresponding usage concentration ( working solutin conc.) Any selected solvents must be addressed in section C.5

☒ Not Applicable

1 Cleaning (degreasing)	2 Solvent Extraction	3 Solvent Recovery	4 Dip Rinsing
5 Spray Rinsing	6 Stripping	7 Equipment Clean-out	8 Vapor Degreasing
9 Flush Rinsing	10 Product Rinsing	11 Other	

Other: 

## Solvent Selection Table:

Solvent	Potential EPA Code	Usage Code	Usage Conc (in working Sol)
Acetone (2-Propanone)	F003		
Benzene	F005, D018		
n-Butyl Alcohol	F003		
Carbon disulfide	F005		
Carbon Tetrachloride	F001, D019		
Chlorobenzene	F002, D021		
Chloroform	D022		
Cresol	F004, D026		
m-Cresol	F004, D024		
o-Cresol	F004, D023		
p-Cresol	F004, D025		
Cresylic acid	F004, D026		
Cyclohexanone	F003		
o-Dichlorobenzene	F002		
2-Ethoxyethanol	F005		
Ethyl acetate	F003		
Ethyl benzene	F003		
Ethyl ether	F003		
Isobutanol	F005		
Methanol (Methyl alcohol)	F003		
Methyl ethyl ketone (MEK)	F005, D035		
Methylene chloride	F001, F002		
Methyl isobutyl ketone (MIBK)	F003		
Nitrobenzene	F004, D036		
2-Nitropropane	F005		
Pyridine	F005, D038		
Tetrachloroethylene	F001, F002, D039		



Toluene (Toluol)	F005		
1,1,1-Trichloroethane	F001, F002		
1,1,2-Trichloroethane	F002		
Trichloroethylene	F001, F002, D040		
Trichlorofluoromethane	F001, F002		
1,1,2-Trichloro-1,2,2-trifluoroethane	F001, F002		
Xylene (Xylol)	F003		
Chlorinated fluorocarbons	F001		

C.4 Does the waste contain halogenated solvents  $\geq 1000$  mg/L (0.1%)? ☐ Yes ☐ No ☐ Possibly ☒ N/A

C.5 Were any of the above selected solvents (in C. 3) mixed with any other substance prior to use? ☐ Yes ☐ No ☒ N/A

If yes, enter detail

C.6 Other Regulated Organics (Check all organics present in the waste) ☒ Not Applicable

Other Organics	EPA Code (s)	Present in Wastestream
Chlordane	D020	<input type="checkbox"/> Yes
2,4-D	D016	<input type="checkbox"/> Yes
1,4-Dichlorobenzene (p-)	D027	<input type="checkbox"/> Yes
1,2-Dichloroethane	D028	<input type="checkbox"/> Yes
1,1-Dichloroethylene	D029	<input type="checkbox"/> Yes
2,4-Dinitrotoluene	D030	<input type="checkbox"/> Yes
Endrin	D012	<input type="checkbox"/> Yes
Heptachlor (and it's Epoxides)	D031	<input type="checkbox"/> Yes
Hexachlorobenzene	D032	<input type="checkbox"/> Yes
Hexachlorobutadiene	D033	<input type="checkbox"/> Yes
Hexachloroethane	D034	<input type="checkbox"/> Yes
Lindane	D013	<input type="checkbox"/> Yes
Methoxychlor	D014	<input type="checkbox"/> Yes
Pentachlorophenol	D037	<input type="checkbox"/> Yes
Toxaphene	D015	<input type="checkbox"/> Yes
2,4,5-TP (Silvex)	D017	<input type="checkbox"/> Yes
2,4,5-Trichlorophenol	D041	<input type="checkbox"/> Yes
2,4,6-Trichlorophenol	D042	<input type="checkbox"/> Yes
Vinyl Chloride	D043	<input type="checkbox"/> Yes

C.7 TSCA Regulated Material ☒ Not Applicable

Contaminant	Concentration
Asbestos	
PCB	

C.8 pH Range ☐ N/A ☐ Paper ☐ Meter

C.9 Hazardous Properties ☐ IGN ☐ COR ☐ REC ☐ TOX ☐ NONE

D. RADIOACTIVE WASTE CHARACTERIZATION ☐ N/A, do not use radioactive material

D.1 Classified Waste ☒ Not Applicable

Classification is due to ☐ Shape ☐ Composition ☐ Other

Location of Supporting Information

Special Instructions to Protect Classified Information

D.2 Waste Evaluation

Does the waste contain any of the following? Each choice must indicate how the information was or will be verified as to presence or absence of the material. VI=Visual inspection. S&A=Sampling and analysis will be accomplished through the Data Quality Objectives (DQO) process. PK=Process Knowledge with an explanation provided. Example of PK Explanation: "Inventory controls", "None used in process", or a reference to supporting documentation, if not already described above, for example, logbooks, drawings.



**a. Hazardous chemicals / compounds (Section C for reference)**

☐ Yes ☒ No If yes, list the chemicals / compounds below. (Attach MSDS for chemical products entering TRUW or LLW)  
If no, explain how hazardous material is controlled to prevent mixing with radioactive waste

The machine must be cleaned to remove any Be or regulated metals before use. Inerting fluids and trace quantities of coolant present will be removed by incineration treatment process.

Verified By: ☒ VI ☐ S&A ☒ PK See above comments

**b. Free Liquid**

☒ Yes ☐ No

If yes, how much liquid is present? <30%

What is the liquid? Mineral oil and trace coolants

Is the liquid ignitable or corrosive? No

For TRUW ☒ N/A If yes, is it:

- ☐ <=2 liters of residual liquid in well-drained containers in a 208 liter drum?  
☐ <=8 liters of residual liquid in well-drained containers in a SWB?

Verified By: ☐ VI ☐ S&A ☐ PK

**c. Particulates (for LLW Only)**

☐ N/A for TRUW

Does the waste contain > 1% by weight of <10-micrometer diameter particles (flour) or >15% by weight of <200 micrometer diameter particles (sand)?

☒ Yes ☐ No

Verified By: ☒ VI ☐ S&A ☒ PK Fines are kept under coolant until treated

**d. Compressed Gases**

☐ Yes ☒ No

Verified By: ☒ VI ☐ S&A ☒ PK Not used in this process

**e. Etiological Agents**

☐ Yes ☒ No

Verified By: ☐ VI ☐ S&A ☒ PK Not used in this process

**f. Chelating agents**

If yes, is the concentration less than 1% by weight? ☐ Yes ☐ No

☐ Yes ☒ No

Verified By: ☐ VI ☐ S&A ☒ PK Not used in this process

**g. PCBs (capacitors, see Section C.7)**

☐ Yes ☒ No

Verified By: ☒ VI ☐ S&A ☒ PK Not used in this process

**h. Explosives**

☐ Yes ☒ No

Verified By: ☐ VI ☐ S&A ☒ PK Not used in this process

**i. Pyrophorics**

☒ Yes ☐ No

Verified By: ☐ VI ☐ S&A ☒ PK Pyphoric characteristic to be removed by treatment at TSDF

**j. Asbestos**

☐ Yes ☒ No

If yes, is it ☐ non-Friable ☐ Friable (If Friable, please segregate)

Verified By: ☒ VI ☐ S&A ☒ PK Not used in this process

**k. Batteries**

☐ Yes ☒ No

Verified By: ☒ VI ☐ S&A ☒ PK Not used in this process

**l. Oxidizers**

☐ Yes ☒ No

Verified By: ☐ VI ☐ S&A ☒ PK Not used in this process

**m. Reactives**

☐ Yes ☒ No

Verified By: ☐ VI ☐ S&A ☒ PK Not used in this process

**n. Beryllium**

☐ Yes ☒ No

Verified By: ☐ VI ☐ S&A ☒ PK Not allowed in this waste stream

**o. Circuit Boards**

☐ Yes ☒ No

Verified By: ☒ VI ☐ S&A ☒ PK Not used in this process

**p. Animal Carcasses**

☐ Yes ☒ No

Verified By: ☒ VI ☐ S&A ☒ PK Not used in this process

**q. CRTs**

☐ Yes ☒ No

Verified By: ☒ VI ☐ S&A ☒ PK Not used in this process

**r. Small hand and electrical tools**

☐ Yes ☒ No

Verified By: ☒ VI ☐ S&A ☒ PK Not used in this process



No.:	0321-1437-30-R-OG
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[illegible]☐ See attached sheet for assay results    ☐ Activity is noted on the Parcel Card or WDR

☒ Depleted Uranium  
☒ Natural Uranium  
☐ Enriched Uranium, list the composition by providing one of the two following descriptions:

☐ Enriched Uranium. Enter Composition: U-238  % U-235  % U-234  %  
☐ The % of U-235 varies from  % to  %

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b. For equipment: ☒ N/AHow much fixed contamination? (per 100 cm<sup>2</sup>)How much non-fixed (removable) contamination? (per 100 cm<sup>2</sup>)

What is the surface area of the equipment?

☐ See attached memo

c. Comments: (for TRUW, state whether or not it is defense-related)

Mass of Dep-U/Nat-U/Th-232 received will be provided by Materials Management and documented on MC&A tag. Activity reported on a requisition must match the transferred mass on the MC&A tag. Tags may not be available until material transfers to RHWM. Discrepancies will be resolved by the receiving MBA representative.

**E. HAZARDOUS COMPONENTS REVIEW**

When the generator is using process knowledge to characterize the waste, the Environmental Analyst or Characterization Chemist should review the supporting documentation. If no documentation is reviewed, explain why (for example, "Visually examined the waste"), and document any review with the generator.

1A. Based on the information provided on this form, the waste is free of characteristic hazardous waste materials exceeding hazardous waste threshold concentrations. ☒ Yes ☐ No

1B. If listed, the waste stream exceeds LDR limits ☐ Yes ☐ No

2. List the documentation (or other) that was reviewed to support the characterization of this waste stream.

B321 FSP

☐ See attached list of additional support documentation that was reviewed ☐ No documentation was reviewed  
☐ Waste characterization memo attached

Comments (include controls for waste stream management, for example, controls on hazardous materials to prevent them from contaminating non-mixed waste):

Packaging Instruction #58 must be followed. Only small pieces that can be readily oxidized during further treatment are allowed (i.e., ~ < 2.5" in one dimension and ~ < 1/2" thickness).

The machine must be cleaned to remove any Be or regulated metals before use. Swipes of the machine will be provided at the EA's request.

Incidental organic material (paper, plastic wrapping, etc.) is NOT allowed.

3. Underlying Hazardous Constituents: ☒ Not Applicable

List all applicable:

4. Record the waste components and hazardous constituents at or above the regulatory limits in the waste. Also record the RCRA and CA characteristics and codes:

Waste Component	Hazardous Constituent	Amount (if known)	RCRA Waste		CA Waste	
			Char*	Code*	Char	Code
N/A						

\*RCRA Characteristics: I (Ignitable), C (Corrosive), R (Reactive), T (Toxic), H (Acutely Hazardous)

CA Characteristics: I (Ignitable), C (Corrosive), R (Reactive), T (Toxic), E (Extremely Hazardous)

Code\*: Enter EPA hazardous waste number, Code: Enter CA State Code

**F. RADIOLOGICAL CHARACTERIZATION:** ☐ N/A

1. Radionuclides are identified by (attach results as applicable):

☒ PK (including swipes and non-DQO radiological analysis) ☐ NDA (for example gamma spectroscopy)  
☐ DQO / SAW ☐ Other

Description of PK and/or explanation of other identification method:

B321 FSP limits isotopes to Uranium/Thorium in this area. Work orders specify type of uranium. MC&A records provide details.



**2. Activity is determined by:**

Documentation must be attached describing all calculations and assumptions used to obtain the activity values. Records must supplement process knowledge.

- |  |   |
|--|---|
| <input type="checkbox"/> Process Knowledge (non-rigorous characterization)<br><input type="checkbox"/> WIC 119, Section 5.1, Non-destructive Assay:<br><input type="checkbox"/> Scaling factors used for nuclide ratios<br><input type="checkbox"/> Segmented Gamma Scanner (SGS)<br><input type="checkbox"/> Gamma Spectroscopy, other than SGS<br><input type="checkbox"/> High Sensitivity Neutron Instrument (HSNI)<br><input type="checkbox"/> Other NDA, description attached<br><input type="checkbox"/> WIC 119, Section 5.2, Swipe to Curie - Contaminated Equipment:<br><input type="checkbox"/> Based on analysis of swipes<br><input type="checkbox"/> Based on survey by alpha meter<br><input type="checkbox"/> WIC 119, Section 5.3, Swipe to Curie - Lab Trash:<br><input type="checkbox"/> Room Posting Algorithm<br><input type="checkbox"/> Waste Swipe Sampling Algorithm<br><input type="checkbox"/> WIC 119, Sec. 5.4, Gross Radiation Measurements (Dose to Curie)<br><input type="checkbox"/> WIC 119, Section 5.5, Sealed Radioactive Sources | <input type="checkbox"/> WIC 119, Section 5.6, Direct Sample:<br><input type="checkbox"/> Gamma spectrometry of sample<br><input type="checkbox"/> Alpha Spectrometry of sample<br><input type="checkbox"/> Liquid Scintillation Counting<br><input type="checkbox"/> Tritium Off-gas Measurement<br><input checked="" type="checkbox"/> WIC 119, Section 5.7, Materials Accountability:<br><input checked="" type="checkbox"/> Mass balance, giving amount remaining in waste<br><input checked="" type="checkbox"/> Accountability records of material mass (mass to curie)<br><input type="checkbox"/> WIC 119, Sec. 5.8, Contamination Factor for Dep U & Nat U (NUQM)<br><input type="checkbox"/> WIC 119, Section 5.9, Other Radionuclide Quantification Methods:<br><input type="checkbox"/> Described below<br><input type="checkbox"/> Description attached<br><input type="checkbox"/> DPM to curie (other than alpha meter), with documentation attached |
|--|---|

DPM to Curie Survey Instrument: \_\_\_\_\_

Probe: \_\_\_\_\_

**Description of process knowledge and/or other quantification method:**

See WIC 119 for additional details on quantification method. Each drum will be individual activity estimated by Materials Accountability methods.

DQO process required: ☐ Yes ☒ No

If yes, DQO #: \_\_\_\_\_

DQA results attached: ☐ Yes ☐ No

**3. Radiological Characterization Guidance**

MM to provide material type and mass. Maximum allowed quantity of nuclear material: 300 kg in a 55-gal drum and 200 kg in a 30-gal drum. Weights must be obtained on a WCP calibrated scale. Daughter nuclides may be omitted.

**G. RCA CERTIFICATION COMPLIANCE REVIEW:** ☐ N/A

Waste Stream Number (to be filled in by RCA) \_\_\_\_\_

WDR / Parcel Card #(s) associated with one-time IGD: \_\_\_\_\_

☐ This IGD is limited to the above WDRs (one-time waste)

This IGD will expire for waste acceptance on the following date (applies to one-time waste) \_\_\_\_\_

**1. General Review:** ☒ All the above sections of the IGD are complete

This IGD appears to be complete and accurate as to waste components and radiological and hazardous contents, insofar as looking can determine this, based on either: ☐ N/A ☒ A visual inspection ☐ A surveillance

Visual inspector and date / Surveillance Number Tom Coburn, 3/12/2006; Gwynn Aldrich, 5/5/06

**2. Review of LLW Radiological Characterization:** ☐ Not Applicable

a. Radiological characterization method is acceptable for:

☒ Storage at RHW, Disposal at ☐ NTS ☒ Other

Treatment/Disposal at approved TSDF

b. For one-time waste

- ☐ Radiological characterization has been completed and the results are acceptable.  
☐ Radiological characterization has not been completed; however, a narrative has been completed and is attached. The plan includes a population description and definition.

c. The following radionuclides need to be added to the NTS profile \_\_\_\_\_

Waste is to be placed on HOLD pending profile update.

**3. Review of TRUW Radiological Characterization** ☒ Not applicable

a. Radiological characterization method is acceptable for:

☐ Storage at RHW ☐ Disposal at WIPP

b. For one-time waste

- ☐ Radiological characterization has been completed and the results are acceptable.  
☐ Radiological characterization has not been completed; however, a narrative has been completed and is attached. The plan includes a population description and definition.

**4. Guidance**

Procedure / Instructions to be followed

Use WCP-8, LLW Handling and Packaging, and PI #58. For Uranium with regulated constituents, use LLMW IGD 0321-1437-10-F-OG. For large non-pyrophoric Uranium chunks with non-regulated debris, use NTS LLW IGD 321-1437-24-L-OG.



Required WDR Supporting Documentation:

Submit with WDR and a copy of the MM accumulation log (the MC&amp;A transfer tag must agree).

## H. AUTHORIZED SIGNATURES:

**Generator:** I certify to the best of my knowledge, that the information provided on this form is complete and accurate.

Amy Kirch

Waste Generator (print)

Signature

5/16/2006

Date

**Verifier review:**

I verify that, to the best of my knowledge, the information supplied by the waste generator on this form is complete and accurate, and that by visual inspection the waste is accurately described (sections A - E are complete)

James Javrin

RHWM Representative (print)

Signature

5/16/2006

Date

**Hazardous Component Review:**

Richard Michalik / Hector Pedemonte

CC / Environmental Analyst (print)

Signature

5-16-2006

Date

**Radiological Characterization Review** ☐ N/A

I have reviewed the radiological characterization and the process and waste descriptions to ensure that the radionuclides identified by the waste generator are reasonable for the process or activity described and that the proposed radiological characterization method is appropriate for the waste matrix and the radionuclides believed to be present.

Review performed by: ☒ RCA ☐ Health Physicist

Gwynn M. Aldrich

Name (print)

Signature

5/17/2006

Date

**RCA Certification Compliance Review:**
☐ N/A

I have reviewed the content of this document and find it acceptable.

The following waste type is produced (check only one):

☐ TRUW (Mixed, CA, Non-haz.) ☐ NTS LLW ☐ LLW RCRA Mixed  
☐ TRUW TSCA ☐ GTCC LLW ☐ LLW and CA Hazardous

Tom Coburn

Signature

6/18/2006

Date

**WCO Review:**
☐ N/A

This constitutes an independent review of the information supplied above.

Brian Perkins

Name (print)

Signature

6/20/06

Date

I. DOE Order 435.1 REVIEW ☒ N/A

435.1 Review Coordinator, print

Signature

Date

☐ No Disposal Option ☐ Acceptable

Comments

## J. IGD FORM REVIEW

IGD review Complete? ☒ Yes ☐ No

Potential Internal Profile Waste Stream? ☒ Yes ☐ No

☐ Waste certification review attachments

Approval/Summary Sheet\* Issue Date

\*Summary Sheet not required for one-time only waste

Brian K. Perkins

IGD form reviewed by:

Signature

6/20/06

Date